

On the Relationship between Teachers' Sense of Responsibility and their Job Satisfaction: The Case of Iranian High School Teachers

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Abstract

This study explored the relationships between teachers' sense of responsibility and job satisfaction in Iranian high schools. Teachers' sense of responsibility was probed into through four dimensions of responsibility for student motivation, student achievement, relationships with students, and teaching. Teachers' job satisfaction was investigated through five aspects of meaningfulness of the job, supportive administration, job characteristics, social benefits, and intention to remain in the job. The results showed that there were only significant statistical relationships between sense of responsibility for student motivation and two of job satisfaction sub-scales; supportive administration and job characteristics. As its secondary purpose, this study examined the role of demographic variables on each of teachers' sense of responsibility and job satisfaction aspects. The results showed that demographic factors influence various aspects of these two variables. There are some implications for educational researchers and administrators.

Key words: Sense of responsibility, Job satisfaction, Demographic variables, Teachers

1. Introduction

Similar to every other organization where personnel and commitment workforce are regarded as the main organizational resources, teachers are considered as the major pedagogical sources in educational context. Attempts to improve performance in schools will never succeed unless teachers, as one of the most important elements of educational system, are taken into account in all of their physical, psychological and physiological dimensions. Teacher's attitudes, thoughts, feelings, job's affairs and information are of utmost importance in considering the most effective factors in teaching performance. One of the factors which is probable to affect teaching performance is teachers' sense of responsibility. As mentioned by Lauermann & Karabenick (2013), sense of responsibility refers to "how teachers themselves view their responsibilities and the conditions under which they are willing to accept personal responsibility for such outcomes" (p.1). Since long various concepts of responsibility have been investigated in relation to different educational issues such as motivation and self-regulation (Higgins, 1997; Higgins, Roney, Crowe, & Hymes, 1994), academic success or failure (Weiner, 1995), attitudes toward teaching and professional dedication (Halvorsen, Lee, & Andrade, 2009), student achievement and learning (Lee & Smith, 1996, 1997; Diamond, Randolph & Spillane, 2004), teachers' extra-role behavior (Somech & Drach-Zahavy, 1999), and job satisfaction (Winter, Brenner, & Petrosko, 2006). Spector (1997) defined job satisfaction as how people feel about different dimensions of the jobs they perform. Although different conceptualizations of sense of responsibility and job satisfaction have been linked to each other in various organizational behavior studies (Castle, Engberg, and Anderson, 2007), the relationship of these two fac-

tors has been rarely touched on in educational settings and specifically in teachers (Winter et al., 2006; Evans, 1997). The present study chose to focus on the relationship between sense of responsibility and job satisfaction in teachers.

2. Review of literature

A review of available literature indicates that as an important index of social relationships in both formal and informal contexts, responsibility has been studied from a number of perspectives. However, insufficient attention has been given to both the conceptualization and the assessment of teacher responsibility, since most of the time the distinction between teachers' sense of responsibility and closely related constructs such as teachers' sense of efficacy and accountability has been ignored (Lauermann & Karabenick, 2011, 2013). Silverman (2010) elaborated on this issue; "one's sense of responsibility may be so strong that one will engage in a particular behavior even without confidence in one's ability to effectively bring about the desired outcome" (p.299). Lauermann & Karabenick (2011) define teacher efficacy as teachers' confidence in their capability to produce desired effects in their classrooms and teacher responsibility as a sense of internal obligation and commitment to produce or prevent designated outcomes, or that these outcomes should have been produced or prevented. They propose that being able to do something does not necessarily imply feeling personally responsible to actually do it. Evidence in extant literature reveals that as a result of using such terms as efficacy and accountability instead of responsibility, relatively little research has focused specifically on sense of responsibility.

Job performance as a complex variable found to be affected by situational and dispositional factors (Sharma & Ghosh, 2006). Dispositional variables have been described as personality characteristics, needs, attitudes, preferences and motives (House, Shane & Herrold, 1996). Sense of responsibility can be regarded as a dispositional variable since some people may be generally more likely than others to assume this sense (Lauermann & Karabenick, 2013). Organ (1990), related job satisfaction to positive attitudes and beliefs towards various aspects of the job or the profession. As revealed by review of the related literature, although different conceptualizations of job satisfaction issue have been the subject of recent studies in education (Bogler, 2001; Wetherell, 2002; Tett & Burnett, 2003; Boreham, 2004), relatively little research has focused specifically on the relationship between teachers' job satisfaction and their sense of responsibility. Accordingly, we designed our study to investigate the relationship between sense of responsibility and job satisfaction of teachers in EFL situations.

Sense of responsibility and job satisfaction are both multi-dimensional concepts and thus has been approached from various viewpoints by different researchers. In the following sections first we briefly touch on different perspectives toward each issue and then we pose the gap which inclined us to conduct such a study.

2.1 *Different perspectives toward sense of responsibility*

Personal responsibility has been studied from a number of perspectives, which led to different conceptualizations of the term. Lenk (1992) defined responsibility as normative and moral expectations of the teachers. Winter (1992) and Bierhoff et al. (2005) explored responsibility in terms of a property such as being self-determined and self-critical. Weiner (1995) examined responsibility as specific outcomes such as academic success or failure.

Lauermann & Karabenick (2011) introduced a conceptual framework which integrated different perspectives of teacher responsibility. In this regard they tried to capture these variations by proposing six fundamental questions based on which they could identify the source of inconsistencies in defining responsibility; "Who is responsible? Responsible for what? Responsible for/to whom?

Who is the judge? In relation to what criteria? In what realm?" (p.124). They assert that due to the multidimensional nature of teacher responsibility a variety of factors could affect the response to these six questions and accordingly, they defined sense of responsibility as "a sense of internal obligation and commitment to produce or prevent designated outcomes or that these outcomes should have been produced or prevented" (Lauermann & Karabenick, 2011, p. 1).

Although there exists a general attention to responsibility (Auhagen & Bierhoff, 2001), relatively, few studies have focused specifically on teachers. In a more recent endeavor, Lauermann & Karabenick (2013) claimed that although personal responsibility has been explored from a variety of different perspectives, with regard to teachers the issue has been limited to five approaches. They elaborated on these five main approaches to operationalizing teacher responsibility; internal versus external attributions of causality and control; single-item measures of responsibility; responsibility for specific outcomes such as education about multiculturalism and diversity; generic measures of responsibility used with teachers; measures of collective teacher responsibility.

Among the approaches to the assessment of teacher responsibility, only generic measures of responsibility tended to search for the relationships between teachers' sense of responsibility and their job satisfaction. In health-related studies, generic measures are defined as comprehensive measures that capture a single aspect or multiple aspects of daily functioning (Maciejewski, 2006). According to Lauermann & Karabenick (2013), generic measures assess the overall degree of responsibility without focusing on specific outcomes. Using hierarchical multiple regressions, Winter et al. (2006) concluded that experienced responsibility for the job is one of the factors which predicts the overall job satisfactions of teachers. Lester (1987) also referred to responsibility as one of the factors that account for teacher satisfaction. Caprara, Barbaranelli, Steca, & Malone (2006) and Karabiyik & Korumaz (2013) also found relationships between these two concepts. However, due to inconsistent results obtained from various research to date, it is not logical to jump to conclusions regarding the relationships between teachers' sense of responsibility and their job satisfaction. For example, van Dick, Schnitger, Schwartzmann-Buchelt, & Wagner (2001) couldn't find any significant link between these two teacher variables. As it can be inferred from the mentioned literature, most of the studies that searched for the relationships between teachers' sense of responsibility and job satisfaction evaluated sense of responsibility as an overall concept (Winter et al., 2006) or as a latent variable included in other constructs such as teacher efficacy and advocacy (Silveman, 2010).

In an attempt to evaluate sense of responsibility as a distinct concept, Lauermann & Karabenick (2013), developed a scale to assess teachers' willingness to assume personal responsibility for negative educational outcomes and specified the scale in terms of different factors such as the target of teachers' responsibility, level of item specificity, authenticity, time frame and valence of the responsibility judgments (positive or negative). In the final version of their scale, they selected four domains of teacher responsibility that they thought to be the most important for students and teachers:

1. *responsibility for student motivation* (interest, liking, and value of the subject taught by the teacher),
2. *responsibility for student achievement* (learning, performance, and academic progress throughout the school year),
3. *responsibility for having positive relationships with students* (students trust the teacher, rely on the teacher when they need help, and know that the teacher truly cares about them), and

4. *responsibility for providing the best possible instruction* (the teacher's lessons are as effective and engaging as the teacher can possibly make them) (Lauermann & Karabenick, 2013).

They argue that there is a distinction between teachers' sense of responsibility when a positive outcome occurs in their classroom and their willingness to assume responsibility if this outcome is negative. Accordingly they put forward the primacy of negative valence since they thought that "whereas most teachers would likely agree that they are responsible to produce such important outcomes as student motivation and achievement, there may be greater variance in their willingness to hold themselves responsible if these outcomes did not occur" (Lauermann & Karabenick, 2013, p. 18).

To measure teachers' sense of responsibility, this study resort to Lauermann & Karabenick's (2013) approach to responsibility, since we think providing wider applicability and creating greater variance among participants are of utmost importance in selecting a measurement scale. Accordingly, we set four facets of sense of responsibility as responsibility for (1) student motivation, (2) student achievement, (3) relationships with students, and (4) teaching.

2.2 Different perspectives toward job satisfaction

Shann (2001) asserted that teacher satisfaction is a predictor of teacher retention, commitment, and thus a contributor to school effectiveness. Despite being widely studied by many researchers, the concept of job satisfaction does not have a conventional definition (Zembylas and Papanastasiou, 2006). The concept of job satisfaction has been defined by various researchers as the way people feel about different aspects of their jobs (Spector 1997), the fulfillment acquired by experiencing various job activities and rewards (Mbua, 2003), the amount of importance a school places on its human resources (Lunenburg & Ornstein, 2004), a positive feeling about one's job resulting from an evaluation of its characteristics (Robbins & Judge, 2008). This indicates that job satisfaction can be measured through either a one dimensional construct of global job satisfaction or a multi-dimensional concept of job satisfaction which captures different aspects of job satisfaction. On the basis of these various definitions and in our attempt to investigate teachers' job satisfaction, we refer to the teachers' attitudes, perceptions and feelings that they have towards their job as a practical definition of job satisfaction. Organ and Bateman (1991) proposed that if teachers have positive attitudes or good feelings about their job, these qualities are taken to describe a satisfied dimension.

Factors influencing job satisfaction have been categorized into two groups which consist of (a) job environment factors, and (b) individual factors (Spector, 1997; Greenberg & Baron, 1995; Bolin, 2007). The first group of factors have been defined and investigated from various perspectives (Greenberg & Baron, 1995; Bishay, 1996; Shann, 2001; Woods and Weasmer, 2002; Rhoades & Eisenberger, 2002; Davidson, 2007). Spector's (1997) defined environmental factors influencing job satisfaction as the way people are treated, the nature of job tasks, relations with other people in the work place, and rewards and accordingly, he suggested meaningfulness of the job, supportive administration, job characteristics, social benefits, and intention to remain in the job as the job environment factors.

Individual factors are defined by Bolin (2007) as factors which refer to such aspects as: an individual's gender, age, educational background, teaching subjects and job experience. Each of these factors has shown to be related to job satisfaction both affirmatively and negatively; gender (Bishay, 1996; Ma & MacMillan, 2001; Zhongshan, 2007); age (Rasku and Kinnunen, 2003), (Crossman and Harris, 2006); marital status (Koustelios, 2001); teaching experience (Koustelios, 2001; Crossman

and Harris, 2006); school type (Crossman and Harris, 2006; Zhongshan, 2007); school location (Bennell & Akyeampong, 2007).

2.3. Research problem

Although the relationship between sense of responsibility and job satisfaction has been tackled in organizational behavior researches (Castle et al., 2007; Edmans, 2012), few studies probed this issue in educational settings particularly in teachers. In most cases, organizational behavior researchers found strong correlations between these two teacher variables or at least they regarded responsibility as a mediating factor for job satisfaction. A question that may come to our mind is that are the findings of these kinds of researches have the potentiality to be extended to educational research contexts as well? Can teachers be treated as ordinary organizational staff? In order to probe the issue, we decided to search for such links in case of teachers. Additionally, the few studies in this regard which explored the relationship of teachers' sense of responsibility and job satisfaction (Winter et al., 2006) tended to reach the issue by measuring both or one of these factors as one-dimensional concepts. Considering the fact that, teachers' attitudes and feelings toward their teaching outcomes and context affects their performance, investigating the relationship between these two teacher variables in terms of their various dimensions seems to be reasonable. Since long sense of responsibility and sense of efficacy have been regarded as similar issues and addressed interchangeably. More recently, however, literature has emerged that offers contradictory findings about this construct. Researchers tried to demonstrate that this measure is conceptually and empirically distinct from teachers' sense of self-efficacy (Lauermann & Karabenick, 2013). Therefore far too little studies have been reported to specifically focus on teachers' sense of responsibility issues and link them to other educational issues such as their job satisfaction and other contextual variables. To partially compensate for such void, this study was conducted empirically to address two research questions.

Research question 1: Is there any significant relationship between teachers' sense of responsibility and job satisfaction with regard to their various sub-scales?

Research question 2: Do the teachers differ in their sense of responsibility and job satisfaction sub-scales in relation to gender, age, marital status, educational level, teaching experience, school type, school location, average number of students and graduation year?

3. Method

3.1 Sample

Our convenience sample encompassed 198 full-time teachers drawn from several high schools of Babol, Ilam, and Malekshahi cities in Iran, 105(53%) of which were females and 88(44.5%) were males. Of them 159(80.3%) reported to be married and 19(9.6%) reported to be unmarried. 179(90.4%) of the participants worked at urban areas and 9(4.5%) at rural areas. To more fully understand the population of interest, we obtained a variety of basic demographic information (Table 1).

As it is indicated in Table 1, most (42.9%) of our participants were more than 40 years old with more than 16 years of teaching experience (46%). Meanwhile, there was a rate of 5.6% no-response in case of age and 6.1% in case of years of experience. The major groups of our participants (90.9%) were teachers in public state schools. In this case there was a rate of 4.5% no-response. Also most of the teachers (31.8% and 35.9%) had 21-30 and more than 30 students in their classes.

Table 1 also shows that a large proportion of participants (66.2%) were educated as B.A or B.S. Graduation year refers to the number of years passed from teachers' final graduation. Although most of our participants were more than 40 years old teachers (42.9%) and had more than 16 years

of teaching experience (46%, Table1), only 27.8% of them had a graduation year rate of more than 16 years. So drawing on the bio-data provided in this table, we can infer that a good part of our participants had continued their education while working.

Table 1. Demographic information about the participants.

Variables	Categories	Frequency	Percent	Cumulative frequency
Age	Less than 25	5	2.5	2.7
	26-30	25	12.6	16.0
	31-35	35	17.7	34.8
	36-40	37	18.7	54.5
	more than 40	85	42.9	100.0
	no-response	11	5.6	
Years of experience	Less than 5	29	14.6	15.6
	6-10	36	18.2	34.9
	11-15	30	15.2	51.1
	more than 16	91	46	100.0
	no-response	12	6.1	
School type	Public state schools	180	90.9	95.2
	Non-public schools			
		9	4.5	100.0
	no-response	9	4.5	
Average number of students	Less than 20	20	10.1	13.0
	21-30	63	31.8	53.9
	more than 30	71	35.9	100.0
	no-response	44	22.2	
Educational status	diploma	1	0.5	.5
	associate diploma	9	4.5	5.2
	B.A/B.S	131	66.2	73.8
	M.A/M.S	50	25.3	100.0
	no-response	7	3.5	
Graduation years	Less than 5	47	23.7	29.4
	6-10	26	13.1	45.6
	11-15	32	16.2	65.6
	more than 16	55	27.8	100.0
	no-response	38	19.2	

3.2 Instruments

Our main data collection strategy involved use of two self-report questionnaires and also a bio-data set of questions which is included in the second questionnaire.

3.2.1 Sense of responsibility scale. The Teachers' Responsibility Scale (TRS) developed by Lauermann & Karabenick (2013) was used in this study. Items of the scale were designed to represent four areas of responsibility: responsibility for student motivation, student achievement, relationships with students, and teaching. TRS was translated into Persian and adapted to our participants' situational and cultural specific requirements. It consisted of 13 items, on a 5-point Likert scale with labels from 0 (not at all responsible) to 5 (completely responsible), in 4-point increments. Cronbach alpha which was computed as the reliability index of the scale was 0.771.

3.2.2 Job satisfaction questionnaire. Teacher Job Satisfaction Survey (TJSS) is a self-report questionnaire which is developed by Ngimbudzi, F. W. (2009) in Tanzania. This questionnaire was translated and adapted to our research context. Various facets of job satisfaction (Job Characteristics, Social Benefits, Meaningfulness of the Job, Support from Administration, and Intention to Remain in the job) were dealt with through 36 five Likert scale items (i.e. 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree & 5= Strongly Agree). The reliability of the instrument was reported 0.888. At the end of this questionnaire, the participants were asked to indicate their gender, age, marital status, and years of teaching experience, type of school ownership, location of school, average number of students per class, educational qualification, and number of graduation years.

3.3 Procedure

The main population for this study comprised high school teachers. 11 high schools in various districts of Babol, Ilam, and Malekshahi cities in Iran were chosen to meet the participants in spring semester of 2013. These include sources of data which were conveniently accessible to the researchers. All of the 198 participants were full-time high school teachers and were contacted personally by the researchers in their respective high schools and invited to participate in the study. They were informed about the study and ensured about the privacy concerns of the research. Willing participants were directed to a set of survey pages which included the two questionnaires.

4. Results

Descriptive statistics (Mean) of sense of responsibility and job satisfaction sub-scales with reference to different demographic variables is shown in Table 2.

Table 2. Descriptive statistics (Mean) of sense of responsibility and job satisfaction sub-scales with reference to different demographic variables

Variables	Categories	1*	2	3	4	5	6	7	8	9
Age	Less than 25	9.40	13.20	8.50	10.20	15.80	11.40	34.33	37.25	10.25
	26-30	9.68	11.73	8.68	10.12	12.47	11.20	29.44	38.27	9.56
	31-35	9.65	12.80	8.36	9.00	13.24	11.46	30.00	39.33	10.00
	36-40	9.05	11.76	8.83	9.83	12.08	9.80	27.30	33.48	8.66
	more than 40	9.84	12.33	9.55	10.12	13.65	11.02	31.77	38.40	10.39
Years of experience	Less than 5	9.82	12.84	8.66	9.48	13.65	11.69	32.00	40.13	9.44
	6-10	9.79	12.09	9.23	9.39	11.90	10.27	29.82	36.00	9.70
	11-15	9.53	12.34	7.80	9.65	13.19	10.58	27.76	36.64	9.79
	more than 16	9.41	12.20	9.53	10.21	13.57	11.03	30.78	37.86	9.96
School type	Public state schools	9.50	12.18	9.02	9.81	13.06	10.75	30.05	37.26	9.88
	Non-public schools	9.66	12.28	9.25	11.28	14.55	12.55	33.57	41.71	8.88
Average number of students	Less than 20	9.26	12.27	8.44	8.27	13.00	11.15	30.83	41.25	9.26
	21-30	9.46	11.88	8.90	9.46	12.87	9.80	27.82	34.86	9.59
	more than 30	9.81	12.69	9.29	10.82	13.21	11.64	32.31	38.95	10.28
Educational status	diploma	10.00	9.00	8.00	9.00	15.00	13.00	38.00	44.00	8.00
	associate diploma	9.55	11.25	8.55	10.22	15.25	12.22	32.71	41.00	11.88
	B.A/B.S	9.60	12.45	9.00	9.74	13.01	10.90	31.37	37.27	9.85
	M.A/M.S	9.53	11.97	9.26	10.02	13.04	10.48	27.06	37.34	9.47

Graduation years	Less than 5	9.71	11.37	8.82	10.11	13.09	10.93	28.61	38.02	9.43
	6-10	10.11	13.95	9.65	8.73	13.56	11.17	32.61	39.28	9.87
	11-15	9.37	12.51	8.71	9.70	12.50	9.83	26.68	34.44	9.25
	more than 16	9.25	12.26	9.40	10.34	13.74	11.20	33.50	38.10	10.40
School location	Urban	9.58	12.29	9.01	9.84	13.40	11.06	30.90	38.23	10.01
	Rural	8.66	10.22	9.22	9.22	8.66	7.44	21.11	23.25	7.11
Marital status	Married	9.48	12.34	9.04	9.78	13.12	10.75	30.65	37.29	9.87
	Unmarried	9.52	11.00	9.00	10.57	12.84	11.17	28.06	37.16	8.63
Gender	Female	9.77	12.42	9.04	10.30	13.62	11.46	32.27	39.67	10.50
	Male	9.28	12.04	9.02	9.30	12.60	10.18	28.14	35.09	9.17

*Numbers 1-9 are indicators of different sub-scales which involved sense of responsibility sub-scales (1. student motivation, 2. student achievement, 3. relationships with students, and 4. teaching) and job sub-scales (5. meaningfulness of the job, 6. supportive administration, 7. job characteristics, 8. social benefits, and 9. intention to remain in the job).

In order to investigate the first aim of study with regard to the relationships between teachers' sense of responsibility and job satisfaction sub-scales, bivariate spearman correlations of all variables were calculated which are presented in Table 3.

Table 3. Spearman correlation of teachers' job satisfaction and sense of responsibility sub-scales

	Gender		Marital status		School location		School type	
	t	Sig. (2-tailed)	t	Sig. (2-tailed)	t	Sig. (2-tailed)	t	Sig. (2-tailed)
<i>Sense of responsibility sub-scales</i>								
1. Student motivation	1.328	.186	-.077	.939	1.092	.276	-.193	.847
2. Student achievement	.791	.430	1.663	.098	1.953	.052	-.084	.933
3. Relationships with students	.054	.957	.086	.932	-.279	.781	-.293	.770
4. teaching	2.381	.018*	-1.14	.254	.625	.533	-1.32	.187
<i>Job satisfaction sub-scales</i>								
5. Meaningfulness of the job	2.260	.025*	.374	.709	4.804	.000**	-1.41	.158
6. Supportive administration	3.300	.001**	-.618	.538	4.132	.000**	-1.97	.050
7. Job characteristics	2.645	.009**	.945	.346	2.816	.005**	-.885	.378
8. Social benefits	4.378	.000**	.073	.942	6.782	.000**	-1.68	.094
9. Intention to remain	3.615	.000**	2.015	.046*	3.451	.001**	1.13	.258

** . Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

According to the correlation matrix shown in Table 3, teachers' sense of responsibility for student motivation is significantly related to supportive administration (0.146, $p < 0.05$) and job characteristics (0.179, $p < 0.01$) aspects of job satisfaction. These are the only relationships which are found to be significant between various sub-scales of these two variables.

To probe into differences among teachers with respect to their sense of responsibility and job satisfaction sub-scales as our second aim of the study, four independent sample t-tests and five mul-

tivariate analyses of variance (MANOVA) were used. Independent sample t-tests were performed to explore whether there were any significant differences in teachers' job satisfaction and sense of responsibility in relation to demographic factors such as gender, marital status, school location, and school type. Summary of information obtained from the four t-tests is presented in Table 4.

Table 4. Sense of responsibility and job satisfaction sub-scales and demographic variables (t-test)

	1	2	3	4	5	6	7	8	9
<i>Sense of responsibility sub-scales</i>									
1. student motivation	1.00	.466**	.110	.220**	.063	.146*	.179*	.053	.047
2. student achievement		1.00	.100	.301**	.081	.132	.068	.103	.060
3. relationships with students			1.00	.346**	-.075	-.088	-.017	-.059	.002
4. teaching				1.00	.025	.077	-.124	.141	.042
<i>Job satisfaction sub-scales</i>									
5. meaningfulness of the job					1.00	.527**	.518**	.527**	.423**
6. supportive administration						1.00	.420**	.651**	.497**
7. job characteristics							1.00	.485**	.373**
8. social benefits								1.00	.443**
9. intention to remain in the job									1.00

* $p < 0.05$

** $p < 0.01$

As indicated in Table 4, there wasn't any significant difference between male and female teachers with regard to their sense of responsibility except for one dimension: teaching ($t=2.381$, $p<0.05$). However, female and male teachers were significantly different with respect to all of their job satisfaction dimensions; Meaningfulness of the job ($t=2.260$); Supportive administration ($t=3.300$); Job characteristics ($t=2.646$, $p<0.01$); Social benefit ($t=4.378$, $p<0.01$); and Intention to remain ($t=3.615$, $p<0.01$). Married and unmarried participants, however, proved no significant difference in their sense of responsibility and job satisfaction dimensions except for intention to remain aspect of job satisfaction scale ($t=2.015$, $p<0.05$). Another independent sample t-test was computed to determine whether our participants differed in their sense of responsibility and job satisfaction in relation to school location. Results provided by t-test showed that there wasn't any significant difference between teachers who work in urban schools and those who work in rural areas with regard to their sense of responsibility sub-scales. However, they significantly differed in terms of all of job satisfaction dimensions; Meaningfulness of the job ($t=4.804$, $p<0.01$); Supportive administration ($t=4.132$, $p<0.01$); Job characteristics ($t=2.816$, $p<0.01$); Social benefit ($t=6.782$, $p<0.01$); and Intention to remain ($t=3.451$, $p<0.01$). Additionally, there wasn't any significant difference between teachers who worked in public schools and those who worked in non-public schools.

To detect differences in teachers' job satisfaction and sense of responsibility in relation to other demographic factors such as age, educational status, years of experience, average student number, and graduation years, five multivariate analyses of variances (MANOVA) were used, summary of which is presented in Table 5.

The first MANOVA indicated that there was no significant difference among teachers of various ages with respect to their sense of responsibility and job satisfaction dimensions except for intention to remain aspect of job satisfaction ($F=3.143$, $p<0.05$). Additionally, the second MANOVA

Table 5. Sense of responsibility and job satisfaction sub-scales and other demographic variables (MANOVA)

	Age		Educational status		Years of experience		Average student number		Graduation years	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.
<i>Sense of responsibility sub-scales</i>										
1. Student motivation	1.630	.172	1.01	.387	.471	.703	1.039	.358	1.456	.232
2. Student achievement	1.471	.216	.793	.500	.357	.784	2.213	.115	4.357	.006**
3. Relationships with students	.860	.491	.430	.732	2.46	.066	3.306	.041*	.474	.701
4. teaching	.849	.497	.376	.770	.052	.984	5.708	.005**	1.210	.311
<i>Job satisfaction sub-scales</i>										
5. Meaningfulness of the job	1.293	.277	.745	.527	3.93	.010*	1.191	.308	1.688	.175
6. Supportive administration	.977	.423	.673	.570	4.47	.005**	6.266	.003**	3.173	.028*
7. Job characteristics	.784	.538	.476	.700	.937	.426	1.520	.224	2.889	.040*
8. Social benefits	2.245	.069	.940	.424	1.67	.177	10.02	.000**	2.802	.044*
9. Intention to remain	3.143	.017*	2.69	.049*	1.03	.380	2.284	.108	2.036	.114

* $p < 0.05$ ** $p < 0.01$

showed that there was no significant difference among teachers with various educational status with respect to their sense of responsibility and job satisfaction dimensions except for intention to remain aspect of job satisfaction ($F=2.69$, $p<0.05$). Teachers who were educated as associate diploma ($M=11.88$) intended to remain in their job more than other participants. Although participants with various years of experience were not significantly different with respect to their sense of responsibility, they differed meaningfully in relation to two measures of job satisfaction scale; meaningfulness of the job ($F=3.93$, $p<0.05$); and supportive administration ($F=4.47$, $p<0.01$).

Another MANOVA revealed that teachers with different average number of students differed significantly in their sense of responsibility and job satisfaction. Teachers with more than 30 students tended to have higher sense of responsibility ($M=9.29$ & $M=10.82$, respectively) in their relationships with students ($F=3.306$, $P<0.05$) and teaching ($F=5.708$, $p<0.01$). Teachers with more than 30 students were satisfied with supportive administration ($F=6.266$, $p<0.01$) more than other groups ($M=11.64$), meanwhile, teachers with less than 20 students were satisfied with social benefits ($F=10.02$, $p<0.01$) more than other groups ($M=41.25$).

Participants with various graduation years differed significantly with respect to their sense of responsibility and job satisfaction. Teachers who 6 to 10 years had passed from their graduation had higher sense of responsibility ($F=4.357$, $p<0.01$) toward student achievements ($M=13.95$). Analyses revealed that teachers in this category differed significantly in three dimensions of job satisfaction scale; supportive administration ($F=3.173$, $p<0.05$); job characteristics ($F=2.889$, $p<0.05$); and social benefits ($F=2.802$, $p<0.05$). Teachers who more than 16 years had passed from their graduation were satisfied with supportive administration ($M=11.20$) and also job characteristics ($M=33.50$) more than

other groups. Additionally, teachers who 6 to 10 years had passed from their graduation were more satisfied with social benefits ($M=39.28$).

5. Discussion

Generally, the results of this study didn't powerfully verify the findings of previous research which found links between teachers' sense of responsibility and job satisfaction. Our first research question focused on the relationships between teachers' sense of responsibility sub-scales and their job satisfaction aspects. As it can be inferred from Table 2, Spearman's measures of association identified only one sub-scale of sense of responsibility (student motivation) with significant relationships to two job satisfaction facets at the .05 alpha levels: supportive administration and job characteristics. Unlike these two relationships, other links between sense of responsibility and job satisfaction dimensions didn't show significant associations. Previous research in this regard demonstrated inconsistent results. Some of the former studies found significant relationships between teachers' sense of responsibility and job satisfaction (e.g. Winter, et al. 2006; Caprara et al. 2006; Karabiyik & Korumaz, 2013). However, other studies reported no links between these two teacher variables (van Dick et al., 2001). As it was mentioned before, most of previous studies assessed sense of responsibility as a generic measure without referring to its specific outcomes or as a latent variable included in assessing other concepts. However in this study, we evaluated sense of responsibility in terms of its substantive components and as a distinct concept. Therefore, one reason which may be proposed for such inconsistent results may be that of the nature of measurement scale. Cultural and moral differences in various contexts under investigation may also lead to different results. Teachers with some specific cultural norms and moral ethics may intentionally not allow their outer contextual job conditions to affect their inner sense toward responsibility for various outcomes of teaching. Another reason which can be suggested for these findings may be that most of the studies which have reported significant links between teachers' sense of responsibility and job satisfaction issues used the concept of sense of responsibility and self-efficacy interchangeably. Therefore, findings of this study seem to be in line with the notion that these two measures do not necessarily define the same concept (Lauermann & Karabenick, 2013).

An eye catching point that can be inferred from Table 3 is that of go-togetherness of each set of sub-scales. As it is apparently detectable, all of the sub-scales of teachers' job satisfaction are highly correlated with each other and in case of sense of responsibility scale, almost all of the correlations are significant except for two measures; correlations between sense of responsibility for relationships with students and student achievement(0.10) and student motivation(0.11). Although this investigation was not planned to demonstrate the intra-links between sense of responsibility and job satisfaction sub-scales, results, in retrospect, indicated strong correlations between each set of sub-scales. Such findings suggest that factors comprising each scale measure a common concept and the instruments used in this study measure what they're purported to measure.

The second issue addressed in this paper is about the probable relationships between various demographic variables and teachers' sense of responsibility and job satisfaction factors (see Table 4 and 5). With regard to the first set of sub-scales, the results of this study revealed that teachers differ significantly in some of their sense of responsibility aspects in relation to gender, average student number and graduation years. Females' sense of responsibility for teaching ($M=10.30$, $t=2.381$) was more than that of males ($M=9.30$, $t=2.381$). Female teachers indicated higher sense of responsibility for teaching. With regard to teaching and relationships with students, participants with more than 30 students demonstrated higher sense of responsibility. Teachers with 6-10 years of graduation indicated higher responsibility for student achievement. However, our findings showed that teachers

didn't differ significantly in their sense of responsibility in relation to age, school type, school location, marital status, educational level, and years of experience.

Generally, teachers' indicated difference with respect to demographic variables was more apparent in relation to job satisfaction factors. As indicated in Tables 4 and 5, our participants differed significantly in all of their job satisfaction levels in relation to gender and school location and also they showed significant difference in some of their job satisfaction measures in relation to age, educational status, years of experience, average student number, and graduation years. These findings supported previous studies (Ma & MacMillan, 2001; Bishay, 1996; Ferguson, Frost, & Hall, 2012).

Due to individual, social, cultural, and emotional differences between females and males, the researchers expected high level of difference between these two groups in relation to their job satisfaction perceptions. The results obtained in this study highlighted the difference between female and male participants. Female teachers were more satisfied with all aspects of job satisfaction scale and this was supported by former studies (Ma & MacMillan, 2001; Bishay, 1996). Based on the fact that rural schools differ from urban schools in many ways (Poppink & Schen, 2003; Winter & Melloy, 2005), we expected difference between teachers who worked in these areas with respect to their job satisfaction indices. The findings served to demonstrate our expectations. Teachers who worked in urban areas indicated more satisfaction with respect to all of job satisfaction dimensions. These results concurred with previous findings (e.g. Bennell & Akyeampong, 2007). Since distribution of population with regard to demographic variables (see Table 1) such as school location and school type is not balanced, generalizations must be performed with caution.

6. Conclusion, implications and limitations

Generally, the results of this research revealed that there is not a strong relationship between teachers' sense of responsibility and job satisfaction. In this study, we evaluated teachers' sense of responsibility and job satisfaction as distinctive concepts via their respective sub-scales. Only one sub-scale of sense of responsibility was associated with two sub-scales of job satisfaction. These findings were inconsistent with previous studies which mostly assessed sense of responsibility as a generic measure that was included in the construct of job satisfaction. Although, some of the former research demonstrated positive and predictive relations between sense of responsibility and job satisfaction, there were also some counter-evidences which couldn't find any relationships between these two variables. These inconsistencies point to the fact that there may be other factors which mediate the relationships between teachers' sense of responsibility and their job satisfaction that vary from one context to another.

These findings have some implications for educational researchers and administrators who seek to improve effective teaching and learning situations. If educational researchers and administrators plan to conduct a research to explore the probable factors influencing teachers' performance in teaching contexts, they must approach the issue from various aspects. Considering teachers as whole human beings leads us to the fact that their feelings and thoughts about their job and responsibility issues are probable to affect their teaching performance in all aspects. Therefore, taking teachers' individual characteristics into account must be of utmost importance for school administrators to enhance educational outcomes. Although firm conclusions about the relationships between teachers' sense of responsibility and job satisfaction aspects cannot be drawn from this study, both of these issues are important factors contributing to improvements in educational settings. The evidence from this study suggests that in considering teachers' beliefs, feelings and thought toward their job, one shouldn't ignore effective issues such as teachers' inner moral criteria, culture and whole human being properties. Therefore, it becomes incumbent upon educational administrators to be

more sensitive about teachers' inner worlds. In this study we focused on different dimensions of sense of responsibility and job satisfaction issues. Further studies may approach the issue by considering the overall measures of these two concepts. Despite promising findings with respect to the relationships between variables, cultural and social differences which may impact the obtained results were not taken into account. Providing that cultural and social sources of difference be accounted for, the findings may show more consistency from one context to another.

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